

A NOTE ON THE WEAVERS AND FINCHES OF THE PUNJAB.

BY

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PART II

*(Continued from page 188 of this volume).*The Pink-browed Finch—*Callocanthis burtoni* (Gould).

Our information about this fine finch is very incomplete.

The ranges north of Simla appear to be its main habitat as far as the Punjab Province is concerned, though I believe I saw a female at Triun 9,700' behind Dharmsala on 2nd April 1923.

Jerdon says (B. I., ii, 407): "This remarkable finch has hitherto only been found in the North-West Himalayas, chiefly in the mountains beyond Simla." This is amplified by Stoliczka who says (J. A. S. B., xxxvii.) "This rare species is found occasionally in winter on the lesser ranges about Koteghar and Simla between 4,000' and 7,000'. In summer it lives in the highest cedar forests in the central range of the N.W. Himalayas."

Then we have Jones' statement (J.B.N.H.S., xxvi, 610) that "Dodsworth procured this species in March 1911 and January 1912. He notes that it goes about in small flocks and is remarkably fearless." Since that was written one of Mr. Jones' correspondents has secured him several specimens from a flock at Simla on 15th February 1921. A pair, dated March 1867, Simla are in the Tweeddale Collection.

These records imply that the species is only a winter visitor to Simla but at Fagoo, 12 miles north on the Hindustan-Tibet road, Tytler procured specimens on 13th June (Ibis, 1868).

M. Babault secured two males at the end of May in Kulu at Tchari Djony in the Parbatti Valley and he is my authority for stating that, the species has been recorded from Murree, though I cannot trace the original records to which he refers. (Mission Babault. Rés. Scient., 191).

It has been recorded from Chamba (Marshall, Ibis, 1884), where a few come down in winter.

The Himalayan Goldfinch—*Carduelis caniceps caniceps* Vigors.

A few pairs of the Himalayan Goldfinch perhaps breed in the north-western corner of our area, as Rattray found 4 fresh eggs on the 10th June at 5,000' at Dunga Gali just a mile or two from the Murree border and Magrath has noted that it probably breeds at Thandiani beyond Dunga Gali.

It also breeds in the north-eastern corner, as I found a nest with a single fresh egg at Kailang 10,000' Lahul on 11th June 1922. At this time the species was very abundant in the neighbourhood of Kailang but many of the birds may have been merely migrants moving further on to the innermost Himalayas as when I passed along the same way about the beginning of July the next year there were but a few pairs about. During the summer months a few pairs may be met with throughout the Chandra and Bhaga valleys of Lahul from Koksar to Jispar. In July in Spiti I observed also a few pairs along the Upper Spiti river about 13,000' and these were doubtless on their breeding ground.

Two young birds in juvenile dress seen in the apple orchard at Bajaura (3,600') on 22nd. June 1921 indicate that the Goldfinch breeds in Kulu. In all probability it breeds over a large area and in greater numbers in the north-eastern Punjab hills than there is at present evidence to prove.

As a winter visitor the Goldfinch is better known. At the end of December 1922 Mr. A. E. Jones saw it at Taxila and I found it common at Rawalpindi in February and the beginning of March 1911.

Stoliczka recorded long ago (J.A.S.B., xxvi, 610) that "During the cold weather it is very plentifully met with at Koteghar, near Simla, and all along the hill stations of the lower ranges." At Simla, according to Jones (J.B.N.H.S., xxvi, 610)" it is a more or less resident species. Small flocks wander from one locality to another, until they separate for the breeding season, about the middle of June."

In December 1922, I found flocks in the Alders of the Upper Beas Valley about Katrain and Sultanpur (4,000'—5,000' in Kulu.)

At Dharmasala, it is distinctly rare and is not shown in Hingston's list. A few birds came to my garden at 4,000' in the Lower Station in the first week of January 1921, and a single individual was seen in the same place on 19th December 1922. It occurs in Chamba (Ibis, 1884, 420).

A solitary bird was seen by Mr. A. E. Jones in a compound in Ambala Cantonment on February 6th., 1916 (J.B.N.H.S., xxvi, 676).

The Himalayan Greenfinch—*Hypacanthis spinoides* (Vigors).

The Himalayan Greenfinch is a bird of wide distribution along almost the whole length of the Himalayas but its movements do not appear to be thoroughly understood as yet.

The most westerly point from which it has been recorded is the Samana where according to Whitehead (Ibis, 1909, 231) a few individuals are to be found in December and January with the flocks of Goldfinches about Fort Lockhart. It is not improbable that these birds breed in the Kurram Valley. In parts of the Peshawar Valley, it is a common winter migrant, (Magrath, J.B.N.H.S., xxi, 1329).

In Murree and the Galis, Rattray says that it is fairly common arriving suddenly about the middle of June and at once commencing nesting operations. At Kotli below Murree, I observed a flock on 26th. May but in error recorded them as young birds (J.B.N.H.S., xxi, 1074). At Thandiani, it appears to be rare. In Kashmir it is a common bird as far north as the Liddar and Sindh Valleys where it breeds from 7,000' to 9,000' (Magrath, J.B.N.H.S., xxi, 1329). It is not found in Ladakh. Some of these western birds must move down to the high plateau of the Rawalpindi Division in winter as Mr. Jones inform me that he met the species at Taxila at Christmas 1922 and I saw a single individual at Jhelum on January 9th, 1914.

As regards Chamba, I have no information but it doubtless occurs there as a summer visitor, for at Dalhousie, I found it most abundant at 7,000'—7,500' in September, whereas it had not been seen at all in the same area in June.

Along the outer slopes of the Duala Dhar or First Snowy range from Dharmasala to the Kulu boundary the greenfinch is a common bird but somewhat erratic in its movements. I have detailed records for this area and the bird has been met with in every month except August and September. In June and July my records are scanty and it is clear that the birds which I see so commonly during the rest of the year in the lower zone from 3,000' to 5,000' and in the foot hills of the Kangra Valley down to 1,200', either move for the monsoon months to a higher zone or cross the range and become the summer visitors of the Inner Himalayas. I incline to the latter theory as the Oak jungles of the higher zone do not appear suitable to the breeding of this species, which I have practically never met in them. Dodsworth's note (J.B.N.H.S., xxi, 1078) shows that the great majority of nests are built in Blue Pines and Cedars and these are very scarce on the Outer Duala Dhar.

From May to August on different occasions I have found it common in Kulu and Saraj from about 6,000' to 9,000', a few birds being observed lower down in the valley to 3,600'. In December I did not observe it.

According to Stoliczka it is found in Lahul and Spiti, but although I met with it near Kyelang at 10,000' in June in the former province I did not find it in Spiti.

In the Simla hills it is a well known and abundant species but even so the records do not throw very satisfactory light on its status. In his very interesting and detailed note (J.B.N.H.S., xxi; 1075) Dodsworth says, that about Simla, the Greenfinch becomes tolerably common about June, (earliest date 4th. June), till the end of October and then disappears, while it breeds in July and August and a few in September, August being the most usual month for nests. The breeding zone is clearly defined at 6,000' to 7,000'. Jones' account (J.B.N.H.S., xxv, 611) does not quite agree with this; according to him it is "Resident though the flocks wander away from their breeding haunts in the cold season and spring. Birds shot in April are moulting. Commences breeding operations in June which continue till September or rarely till October, for in 1916 I saw a brood of young ones which had not left the nest for more than a day. This was on the 29th of that month." Hume (N. & E., 2nd ed., ii, 156) gives the laying season at Simla as July and August but he does not comment on the status of the bird. The only nest that I have taken personally at Simla contained a single egg on 29th June.

I have information which shews that these Greenfinches breed very abundantly about Kufri, Fagoo, Baghi, and Narkundah in August. These birds however vanish by the end of October. Yet at Sabathoo at 4,500' in Beavan's day (Ibis, 1867, 138) he heard that numbers of Greenfinches were caught by soldiers in winter and Captain Skinner records (J.B.N.H.S., xxi, 26) that flocks are common round Dagshai from November to March.

Some birds from this area also move right down to the plains as Mr. A. E. Jones met a small party at Jagadri, Ambala District, on 17th February 1918 (J.B.N.H.S., xxvi, 676).

Further east according to B. B. Osmaston, "these birds are common round the hill stations of Chakrata, Nainital, and Darjheeling from April to October where they breed between 7,000' and 8,000' and probably at similar elevations throughout the Outer Himalayan ranges. They nest chiefly in the months of July and August. In November they begin to move down the hills and in January and February they may frequently be seen in fairly large flocks of from 10 to 20 or more birds in the plains at the foot of the Himalayas. This is especially the case in Dera Dun and eastwards through Bijnor as far as Pilibhit. I have no personal knowledge of the plains below Darjheeling but it is very probable that the Darjheeling birds winter down below like their N.W. brethren" (J.B.N.H.S., xx, 853).

Stuart Baker confirms that it breeds at Darjheeling between 8,000' and 10,000' and perhaps as low as 7,000' and adds that while the bird moves up and down according to season it could hardly be called migratory. (J.B.N.H.S., xxi, 1074). At Kurseong 6,000' below Darjheeling Mr. D. Abreu says that he saw it from early in October to late in December" (J.B.N.H.S., xx, 1152).

Scully says (S.F., viii, 336) that it is "found in great numbers in the valley of Nepal and although it moves about a great deal I think it must be a permanent resident there. It was obtained from early in February to July. [Hodgson stated that it breeds in the Central Hilly region of Nepal from April to July]. It frequents the central woods in flocks and may often be seen in the Residency grounds about sunset flying into the tops of the pine trees and moving about the upper branches very actively."

There appears to be no record of the species in Assam, Sylhet, Cachar, or British Burmah, but Godwin Auston recorded it from Khajinghon, Manipur, and Hume thought he saw it in the Limatol range of the western hills of Manipur (S.F., xi, 28).

I have given the above notes in detail as in spite of the fact that we have more printed records of this beautiful little bird than of most species it does not appear quite safe to generalise from them and lay down a summer and winter range for the species. Its distribution appears more strictly zonal than in most species and until the available records have been largely multiplied it is better not to draw deductions which may prove erroneous. As indicated above it may be considered in any case one of the more abundant finches of the Punjab though fairly strictly confined to the Himalayan ranges.

The Eastern Linnet—*Linota cannabina fringillirostris* Bp. & Sch.

Writing as I am far from libraries and museums it is useless attempting an accurate indication of the respective limits on our frontiers of the Eastern Linnet and the Eastern Twite as the problem has been complicated by the separation by various writers of races which at the best are obscure and probably are not separable. There is however no difficulty as far as the Punjab area is concerned.

The Eastern Linnet is a common winter visitor to the submontane tract of the North-Western Punjab.

Mr. A. E. Jones says of Campbellpore-Attock (J.B.N.H.S., xxvii, 798):—"First noted 20th December 1918 when a flock of 7 was seen. They were so wild that I had difficulty in securing one with the 12· bore gun. Subsequently found to be fairly common about the waste stony ground at the foot of the hills." At Christmas 1922 Mr. Jones informs me that he met with the species about Taxila.

In the Salt Range, the late Captain C. H. T. Whitehead secured a specimen on 13th December from a flock on the plateau to the north of Sardi. This was originally recorded as belonging to the typical form of Europe, but the identification was subsequently corrected (Bull., B.O.C., xix, 7 and xxi, 101).

It is probably a common winter visitor throughout much of the Salt Range as in the beginning of March 1914 I met with Linnets in some numbers about Dumman and Chakwal. Here as I have recorded (Ibis, 1916, 66) they were common enough in small flocks or in parties of 2 or 3 individuals. These would often be noted flying overhead, attention being called by their twittering note, or settling at the tops of Shisham and Kikur trees. In the early mornings the males were singing freely at the tops of trees round the Dumman Rest House.

Currie writes (J.B.N.H.S., xxiv, 566) "At Lahore, last September, (1914) I saw several small parties of Linnets feeding in the grass rukh and passing overhead in a south-easterly direction, which I fancy must have belonged to this species. I did not however shoot one." I feel however quite sure that these birds were not correctly identified as Linnets could hardly reach Lahore in September under any circumstances from what we know of their distribution in Asia.

The Eastern Twite—*Linota flavirostris montanella* Hume.

Stoliczka observes (J.A.S.B., xxxvii, 62) that this species visits Kulu and the Sutlej Valley in winter and is also in winter caught near Chini and some times caged. As his collections apparently contained no specimens from the localities and the record has not since been confirmed by other observers the species can only doubtfully be included in the Punjab list.

The Golden-fronted Serin—*Serinus pusillus* (Pall.)

The Golden-fronted Serin has as yet been reported only in the mountain area of the north-east corner of our Province.

Lieutenant Speke of the 46th B.N.I. long ago informed Blyth (J.A.S.B., xxiv; 257) that it was found in Spiti from 10,000' to 13,000' in summer and this was

confirmed by Stoliczka (J.A.S.B., xxvii, 1868) who says "Comes only in winter to the lesser ranges of the N. W. Himalayas; it breeds east of Chini on elevations of 10,000' and above, as likewise in Spiti, Lahul, and Ladakh."

In July 1922 I found this lovely little finch fairly common in pairs along the Spiti Valley from the Kunzum Pass to Kibar at 13,000'—14,500'. Nests with one and five fresh eggs respectively were found near Kibar on the 21st July.

In Lahul, it is one of the commonest birds in June and July along the valleys from the Rhotang Pass to Zingzingbar at heights from 10,000' to 13,000'. Its main stronghold is the Juniper Forest which stretches from Keylang nearly to Patseo: here I found many nests built in the Juniper trees, with eggs in June and July.

Marshall says, that it appears in Chamba in flocks in March for a short time (Ibis, 1884, 42). In Kulu it apparently does not breed.

The species is most abundant as a winter visitor to the Lower ranges about Simla. Hume says (Lahore to Yarkand, 260) "Later in the autumn [after October] retreats further South [than Ladakh] and enormous numbers swarm over the lower ranges nearer the plains, at heights from 4,000' to 7,000'. I have known of 30 being killed at one shot, near Koteghar, in the valley of the Sutlej." At Simla according to Jones (J. B.N.H.S., xxvi, 610) it is "abundant in the cold weather. Roams about the hill sides in vast flocks which retreat to their breeding quarters generally in April." Mr. Jones informs me that he has met with the species as low as 3,500' at Koti in Baghat state towards the end of February 1923.

I met with some flocks at 6,000'—6,500' near Katrain in the first week of December 1922 but have no other information regarding this bird in Kulu.

It is curious considering the abundance of the Serin in the Simla hills in winter that it apparently does not spread further west along the southern slopes of the Duala Dar or first Snowy range. During three winters at Dharmsala I have met with the species only twice, namely, a single flock seen on 3rd March 1921 above the tea garden 5,000' which lies between Dharmsala and Kanhyara, and a party of 3 birds by Triune Rest House (9,600') on 30th March 1923.

The Brambling—*Fringilla montifringilla* L.

The Brambling is recorded by both Delmé-Redcliffe (J.B.N.H.S., xxiii, 753) and Meinertzhagen (Ibis, 1920, 140) as an abundant winter visitor in flocks about Quetta from early November till March (latest date 2nd. April). These birds doubtless arrive by some westerly route but they appear to depart northwards through a line just west of our area and passing up through Kohat towards Gilgit and Chitral. At Kohat, Whitehead (Ibis, 1909, 231) states that it passes through the District in small numbers early in March, associating with big flocks of buntings: it was not noted on the autumn passage but he afterwards met it on the Kohat grass farm in December 1911. Of Chitral, Perreau says (J.B.N.H.S., xix, 913) that it was only observed in April when large flocks passed through Drosh on their way north. Biddulph and Scully agree (S.F.; ix, 353 and x, 133) that it occurs in Gilgit in small numbers on passage in March and April. The bird passes through Kashmir though I can find no details of this and there is a specimen (undated) from Abbottabad in the Hume Collection. The name also occurs in the list of local birds in the Hazara Gazetteer.

In view of this very clearly defined distribution and movement it is not strange that Hume discredited (S.F., vii, 465) Jerdon's statement that the bird had been found at Simla and Mussorie (B.I. ii, 412), a statement which is inherently improbable and has not since been corroborated.

The Brambling depends for its inclusion in the Punjab list on a female which was shot by me on 7th January 1911 in the compound of the Commissioners' house in the Civil Lines at Rawalpindi. It was solitary and was found perching on the top of a high thorn hedge.

The Yellow-throated Sparrow—*Gymnorhis xanthosterna* (Bonap.).

This is another of our common species on which our information is as yet very incomplete. The Yellow-throated Sparrow is divided into two races, the typical form from the Indian Peninsula and *G. x. transfuga* from Afghanistan, Baluchistan and Sindh. The meeting ground of the two races appears to be in the Punjab and the majority of Punjab birds are clearly intermediate between the two races, but it is probable that both races in their purity are to be found at the extreme ends of the Province and possibly with this is correlated the different status of the species in the north-west and south-east. Full observation and materials are required to clear up these points. In the meantime I have treated the bird binomially and must be satisfied with indicating the available records. It appears to be abundant wherever it occurs.

At Rawalpindi, it is a summer visitor and extends into the Foot-hills of Murree, probably up to about 4,500'. I found that it was already generally distributed by the 15th April. Presumably it occurs at Peshawar but I can find no record on the point.

At Jhelum, including the Salt Range, it arrives about the beginning of April and is one of the first of the summer visitors to depart; all have gone before the middle of August (Ibis, 1916, 67). Similarly in a line further west but outside of our area at Kohat (Ibis, 1909, 232) it arrives about 1st April.

At Gujranwala, I found that they had already arrived by the beginning of April and all had gone again by the end of July. For Amritsar I have a record as early as 24th March for the first arrival.

At Jhang, (Ibis, 1922, 272) I have recorded how it is an abundant summer visitor, arriving at the latter end of March and becoming common by the beginning of April: towards Shorkot however it appears to arrive a few days earlier. The birds flock in August and have gone by the middle of September. Yet it is curious that I observed them at Multan in the second half of October.

At Lahore, according to both Dewar and Currie, it is only a summer visitor; the latter states (J. B. N. H. S., xxiv, 566) that it arrives towards the end of March and leaves again in October, which it will be observed is intermediate between the early departures of the north and west and the winter status of Ambala birds.

It occurs in Chamba (Ibis, 1884, 419).

Along the Kangra Valley, as far at least as Mandi, it is common and reaches about to 4,500' along the base of the ranges; at Dharmsala the first arrivals appear in the last week of March but after breeding it leaves again very early about July; even by the end of June the species has gathered into flocks preparatory to the migration. In the Simla hills, it similarly occurs up to 4,000' (Jones, J.B.N.H.S., xxvi, 611).

At Ferozepore, it is common by the end of March. At Ludhiana, the exodus seems to begin about August but a few were observed at Khanna in September.

At Ambala, the status of the species is distinctly different: in summer it is as elsewhere in the Punjab a generally dispersed breeding species. But in the winter, from December to February, I observed large flocks and it would be interesting to know whether these were composed of the local breeding birds or whether as is more probable the breeding birds winter elsewhere and these flocks were immigrants. A series of summer and winter birds is clearly needed from Ambala for careful racial examination.

For Hissar, my notes show that the bird was already common on my arrival on 27th April; it began to flock about July and a certain number were about till the end of October after which it was not seen.

At Delhi, it breeds in June (Bingham, N. & E., ii, 158) but I have no other information for the south-eastern Punjab.

The Cashmere Sparrow—*Passer domesticus parkini* Whistler.

There is considerable difficulty over the question of the Sparrows of the north-western corner of our Indian Empire owing to the overlooking for many years of the fact that, in the higher hill areas, the breeding bird is larger and with a stronger beak and therefore different from the small *P. d. indicus* of the plains. This larger bird I named as *P. d. parkini* with type locality of Cashmere (Bull., B.O.C., cclii, 13, 1920) but it is not yet possible for want of a sufficient series of Sparrows from different localities properly to work out its distribution and movements. Observers cannot be too strongly urged to collect a series of the breeding sparrows of their localities or of birds which are known to be on passage, as *parkini*, in portions at least of its range, is highly migratory. Until such series are available for identification one cannot satisfactorily deal with the status of this race. I have however the following data as a rough guide to it.

The breeding sparrow of Spiti is beyond all doubt *P. d. parkini* as I secured a series of 6 males there in July 1922; they were common about villages at 13,000' and were nesting in the faggots which top the roofs of all houses in Spiti and eggs were taken. These six males show wing measurements of 79·5, 82·5, 82, 81·5, 81·5 and 81mm. A House Sparrow occurs in summer in Lahul at 10,000' to 12,000' but is rather scarcer than in Spiti and I have only been able to obtain 4 males (wings 79·5, 79, 78, 77·5). These birds are probably also *parkini*.

So far as I have been able to trace them, the Sparrows of the Outer Himalayan ranges appear to be intermediate between *parkini* and *indicus*: and in this area the birds are non-migratory. From Saraj (June), I have 3 males with wings of 78, 78·5 and 77·5mm. From Kulu, a series of 8 males (June and November) have the wings 75·5, 78, 77·5, 77·5, 76·5, 77·5, 78·5, 77 mm. Four males from Dharmasala (April, May, November) have the wings 78, 77·5, 75·5, 75mm. For the rest of the Punjab Himalayas, I have no material available. These measurements form a connecting link between true *parkini*, as exemplified in the above large Spiti birds and the small weak-billed *indicus* of which 4 birds before me from Darbhanga Bengal show wings of 74, 73·5, 72 and 77mm.

Ticehurst has traced *parkini* through Bampur, Karman, Sheraj, Bushire and Afghanistan (J.B.N.H.S., xxviii, 218). It is probably the sparrow which is a summer visitor to Quetta and northern Baluchistan. My only 2 males from Quetta have wings 79 and 79·5.

At Chitral, Perreau records the Sparrow as a very common summer visitor about 4,500' and higher to 7,800' from the end of April till early in October (J.B.N.H.S., xix 913). At Gilgit also the sparrow is a summer visitor arriving about March and leaving in November and breeding in the lower valleys; while some birds remain during mild winters. A series of males are said to have wings of from 3" to 3·2"=76·5—81·5mm. (Biddulph, S.F., ix, 343. Scully, S.F., x, 128).

At Kohat, Whitehead records the passage of vast hordes of migrating sparrows in April and May in company with the Spanish Sparrow and the Rosy Pastor (Ibis, 1909, 232).

These Gilgit, Chitral and Kohat birds may well all be *parkini* but material is wanted for examination.

The type locality for this race is Srinagar, Cashmere where it breeds in abundance; my series of males thence have the wings 80·5, 80, 79·5, 78·5, 77·5mm.

Osmaston found it breeding throughout Ladakh.

Parkini is known to appear in the plains of the Punjab as a migrant. I first observed the new race through the flocks of migrant sparrows which passed through Jhang district in September and October with *Gymnorhis* and *Emberiza luteola* and there were signs of a return migration in March and April. Four males were obtained with wings 80, 81, 80·5 and 77mm. (moult incomplete). Some of these birds were on their way to Sindh as Ticehurst obtained a male (wing 83) from a flock at the head of the Jamrao Canal on 8th December 1918 (Ibis, 1922, 650).

This migration apparently passes through the whole Punjab as I have a pair shot from a flock at Ferozepore on 18th September 1911 (Wing ♂ 79) and Mr. A. E. Jones obtained a male from a flock at Jagadri, Ambala District, in 12th March 1922 (wing 84).

The attention of all observers is directed to this interesting problem.

The Indian House Sparrow—*Passer domesticus indicus* Jard. and Selby.

A House Sparrow which is commonly attributed to this race is found as an abundant resident throughout the Punjab plains; I have not however been able to examine sufficient material from the Indian Peninsula to feel certain whether one name will cover all the birds of the plains of India or whether in reality there is another race which has been overlooked.

The Sindh Sparrow—*Passer pyrrhonotus* Blyth.

This Sparrow was originally named by Blyth in 1844 from a single specimen obtained in Bhawalpur by Sir Alexander Burnes and then was entirely lost sight of for nearly 40 years until it was rediscovered by Doig in the Eastern Narra. It is only within the last 10 years however that its distribution has become fairly well known, though both Hartert and Stuart Baker have made the mistake of placing it as a race of *Passer domesticus*. This is quite incorrect as apart from the fact that the two birds are very distinct, *Passer domesticus* breeds freely through the whole range of *Passer pyrrhonotus*.

The Sindh Sparrow is essentially a riverain sparrow and its range is therefore largely dependant on the course of the river system of the extreme north-west: it is however inevitable that small colonies wander away from the rivers and establish themselves where a combination of Kikur trees, Sarpat grass, and water furnish the necessary conditions for their breeding and odd parties may of course be met anywhere in the area between the rivers. It is however only along the course of the rivers that the bird may be looked for with a certain expectation of its discovery.

I have traced the Sindh Sparrow as follows throughout the whole of its range:—

On the Indus, it is recorded from Dera Ismail Khan by Currie (J.B.N.H.S., xxiv, 566). There is then a gap in its known distribution down to the jungles north of Sukkur from whence it is fairly common down to the Sadhani forest in the Karachi collectorate and occasionally as far as the jungles in the Hyderabad district. It occurs at the Machar Lake and Jamrao Head (Ticehurst, Ibis, 1922, 652), and on the Eastern Narra (Doig, S. F., ix, 280).

There is no record for the Jhelum river.

On the Chenab it is found as far north as Wazirabad (Currie, *loc. cit.*) but it appears to be scarce along this river until about the Rivaz bridge at Chund Jhang District (Ibis, 1922, 274): from there it is common down to Multan south of which there is no record.

On the Ravi, it is common about Lahore (Currie, J.B.N.H.S., xix, 259; xxiv, 566; Jones, xxi, 1073). Currie has recorded it from Gurdaspur but not made it clear where the species was actually found.

For the Beas, there is no definite record.

On the Sutlej, I have found it at Phillaur (J.B.N.H.S., xx, 1151) and again it is common at the Ferozepore bridge (J.B.N.H.S., xxii, 392). Still further south we have Bhawalpur the type locality.

Throughout its range the bird is a resident species.

The breeding season is extended and probably more than one brood is raised in the year. Nests have been recorded in April at Wazirabad Eastern Narra and Sadhani Forest, in May and June at Lahore, in August at Lahore and Jhang and in September at Jhang.

The Spanish Sparrow—*Passer hispaniolensis transcaspicus* Tschui.

This race of Spanish Sparrow is said by Hartert to breed from the Transcau-

casus through Trancaspia to Turkestan, Kashmere, Afghanistan, Persia and Palestine.

If it breeds at all in Cashmere it must be very rarely as I can trace no actual records on the point though, Ward says, that he met with it in July in the Nowboog Valley (J.B.N.H.S., xvii, 485).

The winter distribution for India is given (F.B.I., ii., 239) as Sind, the Punjab, the northern part of Rajputana down to Sambhar, the N.W. Provinces and Oudh as far east as Mirzapore.

Some birds apparently arrive in India by a line somewhat similar to that followed by many species and passing down just along the west of the Punjab border; for while at Gilgit it is so scarce that Biddulph and Scully (S. F., ix, 393; x, 128) only obtained 2 or 3 specimens in winter, in Chitral it is a very common passage migrant in large flocks in October and November and at the end of April and beginning of May (Perreaeu, J.B.N.H.S., xix, 913). Immense flocks are reported from Kohat and the Kurram Valley where the passage dates are given as second week of March till middle of May and early August to October, but as it is scarce at Quetta in winter (3 specimens in the local Museum obtained on 18th November being the only record known to me) these flocks perhaps represent a second line of entry from the west. That this is probable is also suggested by the fact, that it is only a winter visitor to Upper Sindh in quite small numbers and a mere straggler to Lower Sindh (Ticehurst, Ibis, 1922, 651) as contrasted with the vast numbers which appear in the Punjab and pass through as far as the Sambhar Lake (Adam, S.F., i, 387). Had the Kohat birds been part of the north to south movement represented in Chitral the Spanish Sparrow could hardly fail to be a more abundant bird at Quetta and in Sindh.

Published records for the Punjab do not at all accurately represent the movements of the species: my own records are also very unsatisfactory as far many years I certainly overlooked the presence of the bird.

Hume says (S.F., i, 209), "During the cold season invades nearly the whole Punjab in such vast flocks that a single shot would often enable one to secure materials for a dozen pies." Again in the Ibis (1868, 233) he says "found throughout the Sirsa and Hansi districts. . . . about Sirsa it is found associated in immense flocks with the common 'sparrow'. His collection contains specimens from Rhotak and Sirsa. It occurs in Hissar. In Ambala district according to Jones (J.B.N.H.S., xxvi, 676) it is a common winter visitor. At Jhang I found it a winter visitor in flocks but somewhat variable in numbers from year to year. My records were incomplete but the bird was certainly observed from December till the end of March (Ibis, 1922, 272). During a railway journey from Lalamusa to Sargodha on 25th April 1918, I almost certainly identified this bird amongst very many flocks of Sparrows seen along the line.

The Cinnamon Sparrow—*Passer rutilans debilis* Hartert.

The Cinnamon Sparrow is a purely Himalayan species but while strictly speaking a resident in the hills and non-migratory it changes its altitude according to season, in winter appearing near the outer fringe of the foothills. The limits of this race do not yet appear to have been defined closely either on the west or east. Hartert's statement (Vog. P.F., 162) that it extends to Sindh is not correct and there is no record for the plains of the Punjab.

Within our area it is found very commonly in summer from about 5,500' to 7,000' as a breeding bird all along the outer ranges of the Himalayas and in small numbers down to 4,000' and up to about 9,000'. At Murree it is common in summer but less numerous towards the Galis. There is no information available as to whether the birds of this area winter in the Rawalpindi foothills or whether they move further east. I did not however observe the species at Rawalpindi in winter.

It does not occur in Spiti or Lahul but breeds commonly along the Beas and its side nullahs in Kulu and in Saraj from about 4,000' to 8,000'. I met with some at the end of November in Kulu but possibly the majority leave Kulu during the winter months.

From the Chamba border to the border of the Province beyond Simla it is very common south of the first snowy range about Dalhousie, Dharmasala, Kasauli and Simla breeding in May and June. It apparently occurs at Koteghar in winter and like the Himalayan Greenfinch is very irregular in its altitudinal movements; after the breeding season the birds gather in flocks and these gradually desert the higher levels and move about appearing in January and February as low as Kalka and the southern borders of the Kangra District about Jawalamukhi and Hamirpur (2,000'). Mr. A. E. Jones informs me that he met a flock at Ghaggar, Ambala District, on 29th February 1920. The return to higher levels takes place about March.

The Tree Sparrow—*Passer montana dilutus* Richm.

Stoliczka states (J.A.S.B., xxxvii) that the Tree-Sparrow is "only rarely seen in the eastern parts of the Sutlej Valley near Chini" which implies that it has been met with in the Punjab Province. In view however of the indefinite nature of this record, the want of further corroboration, and the general distribution of this race which renders its occurrence within our boundaries unlikely. I am not yet prepared to admit the Tree Sparrow to the Punjab list, though Marshall certainly includes it in his list of Chamba birds (Ibis, 1884, 419).

Adam's Snow Finch—*Montifringilla nivalis adamsi* Adams.

This race of Snow Finch was originally discovered by Adams in 1852 in Ladakh, near Lama Yaru, and appropriately enough this type locality falls within the area where we know most about the bird.

The traveller in Ladakh first meets with the species about the Namika-Lá. Here on the 21st August, Stoliczka says, that it was the only bird, in flocks at 12,000' feeding and running on the ground like Larks, rising somewhat similarly with a loud chirp. He first saw it a little east of Shargol. (Diary: Second Yarkand Mission, 31; S.F., ii, 462). The Abbott collection contains an immature male taken at 11,000' on 26th June. Ludlow found a nest with young at the foot of the Pass on 24th June (J. B.N.H.S., xxvii, 144). Mrs. Wathen informs me that she saw some on the summit of the Pass on 18th July.

Then at Karbu it is common: Henderson met it there in June and again found it in large flocks in October (Lahore to Yarkand, 262). Stoliczka's collection contains 4 specimens shot here on the 21st August.

On the Fotu-Lá it is one of the characteristic birds. Henderson found it there at 13,000'. Abbott obtained specimens about 12,000' on 27th June. Ward obtained newly fledged young at 14,000'.

Then comes the type locality Lama Yaru; here Ludlow found a nest with young on 23rd June. The Stoliczka collection contains two specimens shot on 23rd August.

In the Indus Valley, it is apparently less often seen. Ludlow found a nest with 4 much incubated eggs on the 9th June near Mashool. Mrs. Wathen saw a single individual below Rasgo at 10,500' on 4th August. The Abbott collection contains specimens from Upshi 11,000' and Phyang 11,000'. The Stoliczka collection contains one specimen from Leh.

North-east of the Indus the Khardong ridge is a well known locality for the Snow Finch. Stoliczka found numbers there after a heavy fall of snow in early September (S.F., ii, 462). Mrs. Wathen found it abundant on the Pass up to about 15,000' on 31st July and saw many fledged young.

Further north our information is very vague but the range appears to be

extensive. In Stoliczka's last paper (S. F., iii, 220) it is given in the very scanty list of birds which winter in the hills about Kashgar. Scully found it in flocks on 16th August on the Chuchu Pass at 11,700' and two days later met it again at Kichik Yarlak (S.F. iv. 172). Biddulph says that on the return journey from Wakhan a few individuals were noticed on the passes between Sarikol and Turkestan.

I cannot find the authority for the statement that the Snow Finch occurs in Gilgit.

M. Babault obtained specimens on 27th July at Puga with the organs in breeding condition, and also at the Tso-Morari Lake (20th. July) and Zaruru (15th. 16th. July), (Mission Babault Résultats Sc., p. 194).

To the south-east it occurs in Rupshu as Stoliczka sent specimens from Marse-lang and Tajlang to Von Pelzeln (Ibis, 1868). From there the bird apparently extends right across Southern Tibet to the neighbourhood of Mt. Everest.

As might be expected from a perusal of the above records Adam's Snow Finch only occurs with in the Punjab boundaries in the extreme north-eastern corner.

In July 1922 I found that it was a common bird and nests with young were found about the villages of the Spiti Valley at 13,000' from Losar to Kibar, extending in smaller numbers up to an altitude of about 15,000'. (Curiously enough in no part of its range does it appear to occupy quite so high a altitudinal zone as *M. b. haematopygia*). It was not observed on the western or Chandra Valley watershed of the Kunzum range on the Lingti Plain or in Lahul proper.

According to Stoliczka (J.A.S.B., xxxvii) his shikaris obtained the species in the Sutlej Valley and Kulu in winter while M. Babault (Résultats Scient., 194) on evidence unknown to me includes Lahul in its range.

Brandt's Mountain Finch—*Montifringilla brandti haematopygia* Gould.

This species which is very common throughout Eastern Turkestan and Ladakh beyond the Indus river only occurs within the north-eastern corner of our area; it is a bird of very high elevations keeping for the most part about 12,000' and being at home as high as 19,000'.

Within our area I have met it in July from about 14,000' above Zingzinbar, on the Baralacha Pass up to the summit at 16,000'; from there it is common in Lahul along the valley of the Chandra River to the Kunzum Pass, and along the Yunnan River and Lingti Plain to the Tsarab River at altitudes of not less than 13,000'. According to the Thakur of Lahul it appears in the Bhaga Valley in winter and he procured me a specimen in February. In Spiti I found it somewhat scarce along the valley of the Spiti River, but above Kybar it was common on the uplands from 15,000' to 17,000' where I was shooting Burhel.

Stoliczka states (J.A.S.B., xxxvii) that he obtained it in winter through his shikaris in the Sutlej Valley (rather too wide a term to be of value) as well as in Kulu.

The Mission Babault (Résultats Scien., 195) obtained specimens between the Baralacha Pass and the Ladakh boundary on the 11th—15th July 1914.

There appears to be no other record for our area.

So far as I could judge from the dissection of the specimens obtained in Spiti and Lahul the breeding season must be in July and August, but I could find no nests.

Stoliczka's Mountain Finch—*Montifringilla nemoricola altaica* (Eversm.)

This, the commonest of the Mountain Finches, appears to be widely spread through the whole of Chitral, Gilgit, Baltistan, Ladakh, Eastern Turkestan, Spiti and Eastern Tibet. To the west it extends into Afghanistan occurring even on the Samana about Fort Lockhart irregularly (Ibis, 1909, 224). Within this area it moves up and down at different levels according to season being found as low as 4,000' winter and up to 14,000' in summer.

In Chamba according to Marshall (Ibis, 1884, 421) it is very common all through the winter in large flocks.

In the north-west of our area it has not actually been recorded but it can hardly fail to occur on the hillsides about Murree in winter.

In the north-eastern corner of the area it is a familiar species. It breeds very commonly in the Upper Spiti Valley from 13,000 upwards. It is found in summer less abundantly but still commonly enough along the Valley of the Upper Chandra from the Baralacha Pass to the Kunzum Pass from 13,000' upwards. It certainly breeds also from 12,000' upwards in Lahul north of the Bhaga river along the Baralacha range. In central and southern Lahul it may be observed as low as 10,000' in summer but erratically and often in large flocks, so it is probably scarce as a breeding species in these parts.

As regards the innumerable high ranges of Chamba Kulu and Bara Bhangal, I have no information as to whether the bird breeds on them or not, but a few appear to remain and breed on the Duala Dar range behind Dharmsala at 11,600' and upwards.

In winter, this mountain-finch appears throughout the whole of the area south of the central Himalaya or Rhotang range reaching as low as 3,500' in the Kangra Valley about Palampur on the one side and the lower ranges about Simla on the other; as Hume says (Lahore to Yarkand, p. 264) "Innumerable flocks swarm on the lower ranges of the Himalayas in winter from 4,000' to 7,000'; no one would believe what countless multitudes throng at times every hillside in the Sutlej Valley near Koteghar in winter. They came and go in a most capricious manner". On the outer edge of their winter range they of course are less abundant than he has described above, but taking all in all one can hardly doubt that this bird is one of the most numerically abundant species of the Western Himalaya.

The movements of this Finch are so erratic and vary so according to locality that it is not easy to date their altitudinal migrations. But in the Kangra Valley they appear to reach their lowest haunts, the rice fields about 3,500'—4,000' only in January and February, and they probably move off from the lower ranges below 9,000' about March: otherwise their movements are doubtless regulated only by the conditions of the snow line in the various ranges.

In spite of the numerical abundance of this well known species very little is known accurately about its breeding. It is probably a late breeder in August and September for the flocks are often still unpaired well on in June and July and birds shot in those months frequently have the organs quite undeveloped. Even when the flocks have dispersed it is difficult to say from their behaviour whether the multitude of individuals feeding, courting, quarrelling on the hillsides are actually nesting, and it is almost impossible to find nests by accident or casual searching, so concealed are their sites under stones on the steep hillsides.